

Title: ABLATION OF STOMACH LINING TO REDUCE STOMACH ACID SECRETION

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Docket No.: P-11296.00

CLAIMS:

1. A method for reducing stomach acid secretion comprising:
determining a first acid level of a patient with a hyperacid condition;
ablating tissue within a stomach with an ablation probe sized to fit the stomach to inhibit the production of acid by the tissue; and
determining a second acid level of the patient following a period of time after ablation.
2. The method for reducing stomach acid secretion of claim 1, wherein determining the first acid level comprises monitoring acid reflux levels with an esophageal pH monitor.
3. method for reducing stomach acid secretion of claim 1, wherein the first and second acid levels are first and second esophageal acid levels.
4. The method for reducing stomach acid secretion of claim 1, wherein inhibiting the production of stomach acid comprises reducing an amount of acid refluxed into an esophagus of the patient.
5. The method for reducing stomach acid secretion of claim 1, wherein the period of time after ablation comprises one week.
6. The method for reducing stomach acid secretion of claim 1, wherein ablating tissue comprises ablating at least a portion of a mucosal lining of the stomach.
7. The method for reducing stomach acid secretion of claim 1, wherein ablating tissue comprises ablating cells that produce stomach acid.
8. The method for reducing stomach acid secretion of claim 1, wherein ablating tissue comprises:
inserting an ablation probe to the stomach via an esophagus of the patient;

moving the ablation probe to a position proximate to a mucosal lining of the stomach;
and

activating the ablation probe to ablate at least a portion of the mucosal lining.

9. The method for reducing stomach acid secretion of claim 8, where the ablation probe comprises at least one of a radio frequency, laser, ultrasonic, microwave, thermal, chemical, mechanical, and cryogenic ablation probe.

10. The method for reducing stomach acid secretion of claim 8, wherein activating the ablation probe comprises delivering energy to the mucosal lining of the stomach via the ablation probe.

11. The method for reducing stomach acid secretion of claim 8, wherein the ablation probe comprises at least one electrode and wherein activating the ablation probe comprises delivering electrical current to the mucosal lining of the stomach via the electrode.

12. The method for reducing stomach acid secretion of claim 11, wherein the ablation probe comprises a conductive fluid delivery port adjacent the electrode, the method further comprises delivering the conductive fluid to the mucosal lining of the stomach prior to activating the ablation probe.

13. The method for reducing stomach acid secretion of claim 8, wherein the ablation probe includes an optical waveguide and wherein activating the ablation probe includes delivering energy from a laser to the mucosal lining via the optical waveguide.

14. The method for reducing stomach acid secretion of claim 8, wherein the ablation probe includes a cryogenic probe and wherein activating the ablation probe includes delivering cryogenic fluid to the mucosal lining via the cryogenic probe.

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15. The method for reducing stomach acid secretion of claim 8, further comprising applying vacuum pressure to the mucosal lining to immobilize at least a portion of the mucosal lining.
16. The method for reducing stomach acid secretion of claim 8, wherein the catheter comprises an endoscope.
17. The method for reducing stomach acid secretion of claim 1, further comprising ablating additional stomach tissue based on a comparison of the second esophageal acid level to the first esophageal acid level.
18. An ablation system comprising:
 - a catheter inserted into a stomach of a patient with a hyperacid condition via an esophagus;
 - an ablation probe sized to fit the stomach inserted through the catheter and placed proximate a mucosal lining of the stomach;
 - an ablation source to control delivery of ablation energy via the ablation probe in an amount sufficient to ablate tissue within the stomach and inhibit acid production by the tissue; and
 - a pH monitor placed in one of an esophagus and a stomach of the patient to determine an acid level.
19. The ablation system of claim 18, wherein the pH monitor is placed in the esophagus to determine the acid level before ablation and a period of time after ablation.
20. The ablation system of claim 18, wherein the period of time after ablation comprises one week.
21. The ablation system of claim 18, wherein the pH monitor determines the acid level by monitoring a level of acid reflux.

22. The ablation system of claim 18, where the ablation probe comprises at least one of a radio frequency, laser, ultrasonic, microwave, thermal, chemical, mechanical, and cryogenic ablation probe.

23. The ablation system of claim 18, wherein the ablation probe comprises at least one electrode and wherein the ablation source delivers electrical current to the electrode.

24. The ablation system of claim 23, wherein the ablation probe further comprises a conductive fluid delivery port adjacent the electrode, the system further comprises a conductive fluid source to deliver fluid to the fluid delivery port.

25. The ablation system of claim 18, wherein the ablation probe comprises an optical waveguide and wherein the ablation source delivers energy from a laser to the optical waveguide.

26. The ablation system of claim 18, wherein the ablation probe comprises a cryogenic probe and wherein the ablation source delivers cryogenic fluid to the cryogenic probe.

27. The ablation system of claim 18, further comprising a vacuum pressure source to apply vacuum pressure to the mucosal lining of the stomach to immobilize at least a portion of the mucosal lining.

28. An ablation system comprising:
means for ablating tissue within a stomach of a patient with a hyperacid condition to inhibit acid production by the tissue; and
means for controlling the delivery of the ablation energy.

29. The ablation system of claim 28, further comprising means for determining a stomach acid level of the patient.

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30. The ablation system of claim 28, wherein the means for ablating tissue comprises at least one of a radio frequency, laser, ultrasonic, microwave, thermal, chemical, mechanical, and cryogenic means.